CLAIM AMENDMENTS:

Claim 1 (Currently Amended): A method of manufacturing a semiconductor device, comprising:

preparing a semiconductor substrate on ~~in~~ which a silicon film is piled via a buried oxide film;

forming a first insulation film on the ~~above~~ silicon film;

providing an opening in the ~~above~~ first insulation film to expose a part of the ~~above~~ silicon film;

forming on an inner wall of the ~~above~~ opening a second insulation film having an ~~whose~~ etching selection ratio that is different from an etching selection ratio ~~that~~ of the ~~above~~ first insulation film;

carrying out an oxidation process on ~~for~~ a surface of the ~~above~~ silicon film exposed from the ~~above~~ opening, which opening is ~~portion~~ provided on the inner wall thereof with the ~~above~~ second insulation film, to thin the ~~above~~ silicon film;

forming a conductive film so as to fill in the ~~above~~ opening; and

eliminating the ~~above~~ first insulation film to form a gate electrode having the ~~above~~ conductive film and the ~~above~~ second insulation film formed on a side wall of the ~~above~~ conductive film.

Claim 2 (Currently Amended): The method of manufacturing a semiconductor device as in Claim 1, wherein the ~~above~~ first insulation film has an etching selection ratio in which the etching speed is faster than that of the second insulation film.

Claim 3 (Currently Amended): The method of manufacturing a semiconductor device as in Claim 1, wherein the ~~above~~ first insulation film is a silicon oxide film.

Claim 4 (Currently Amended): The method of manufacturing a semiconductor device as in Claim 1, wherein the ~~above~~ second insulation film is a silicon nitride film.

Claim 5 (Currently Amended): The method of manufacturing a semiconductor device as in Claim 1, wherein the ~~above~~ step of thinning the ~~above~~ silicon film is achieved by eliminating a silicon oxide film formed in the ~~above~~ oxidation process carried out on ~~for~~ a surface of the ~~above~~ silicon film exposed from the ~~above~~ opening.

Claim 6 (Currently Amended): The method of manufacturing a semiconductor device as in Claim 1, further comprising implanting impurities in the ~~above~~ silicon film with the ~~above~~ gate electrode used as a mask to form a diffusion layer on the ~~above~~ silicon film, and thereby, forming a MOSFET on a surface of the ~~above~~ silicon film.

Claim 7 (Currently Amended): The method of manufacturing a semiconductor device as in Claim 6, wherein the ~~above~~ MOSFET is of a fully depletion type.

Claim 8 (Currently Amended): The method of manufacturing a semiconductor device as in Claim 6, wherein, in the ~~above~~ step of thinning the silicon film, the thickness of the ~~above~~ silicon film becomes thinner in a region in which the ~~above~~ gate electrode is formed than in a region in which the ~~above~~ diffusion layer is formed.

Claim 9 (Currently Amended): A method of manufacturing a semiconductor device comprising:

preparing a semiconductor substrate on ~~in~~ which a silicon film is piled via a buried oxide film;

forming a first insulation film on the ~~above~~ silicon film;

providing an opening in the ~~above~~ first insulation film to expose a part of the ~~above~~ silicon film;

forming on an inner wall of the ~~above~~ opening a second insulation film having an ~~whose~~ etching selection ratio that is different from an etching selection ratio ~~that~~ of the ~~above~~ first insulation film;

carrying out an oxidation process on ~~for~~ a surface of the ~~above~~ silicon film exposed from the ~~above~~ opening, which opening is provided on the inner wall thereof with the ~~above~~ second insulation film, to thin the ~~above~~ silicon film;

eliminating the silicon oxide film formed in the ~~above~~ opening in the ~~above~~ oxidation process;

forming a third insulation film on the silicon film exposed from the ~~above~~ opening after eliminating the ~~above~~ silicon oxide film formed in the ~~above~~ opening;

forming on the ~~above~~ third insulation film in the ~~above~~ opening a conductive film so as to fill in the ~~above~~ opening;

eliminating the ~~above~~ first insulation film while retaining ~~remaining~~ the ~~above~~ second and third insulation films formed on the inner wall of the ~~above~~ opening and the ~~above~~ conductive film; and

implanting impurities in the ~~above~~ silicon film with the ~~above~~ gate electrode used as a mask to form a diffusion layer in the ~~above~~ silicon film, and thereby, thereby forming a MOSFET on a surface of the ~~above~~ silicon film.

Claim 10 (Currently Amended): The method of manufacturing a semiconductor device as in Claim 9, wherein the ~~above~~ first insulation film has an etching selection ratio in which the etching speed is faster than that of the second insulation film.

Claim 11 (Currently Amended): The method of manufacturing a semiconductor device as in Claim 9, wherein the ~~above~~ first insulation film is a silicon oxide film.

Claim 12 (Currently Amended): The method of manufacturing a semiconductor device as in Claim 9, wherein the ~~above~~ second insulation film is a silicon nitride film.

Claim 13 (Currently Amended): The method of manufacturing a semiconductor device as in Claim 9, wherein the ~~above~~ MOSFET is of a fully depletion type.

Claim 14 (Currently Amended): The method of manufacturing a semiconductor device as in Claim 9, wherein the ~~above~~ step of forming the third insulation film is carried out by means of a thermal oxidation method.

Claim 15 (Currently Amended): The method of manufacturing a semiconductor device as in Claim 9, wherein, in the ~~above~~ step of thinning the silicon film, the

thickness of the ~~above~~ silicon film becomes thinner in a region on the top of which the ~~above~~ conductive layer is formed than in a region in which the ~~above~~ diffusion layer is formed.

Claim 16 (New): A method of manufacturing a semiconductor device comprising:

preparing a semiconductor substrate by forming a box insulating layer on the substrate and forming a silicon film on the box insulating layer;

forming a first insulating layer on the silicon film;

removing a part of the first insulating layer to expose a part of the silicon film through an opening having an inner wall;

forming a second insulating layer on the inner wall of the opening;

subjecting the exposed silicon film to an oxidation process to form an oxidation layer on the exposed silicon film;

removing the oxidation layer so that a thickness of the exposed silicon film is reduced;

forming a gate insulating layer on the exposed silicon film;

forming a conductive film on the gate insulating layer; and

forming a source/drain region on the silicon film.

Claim 17 (New): A method of manufacturing a semiconductor device according to claim 16, wherein the first insulating layer is a silicon oxide film.

Claim 18 (New): A method of manufacturing a semiconductor device according to claim 16, wherein the formation of the first insulating layer includes forming a silicon oxide film on the silicon film and forming a silicon nitride layer on the silicon oxide film.

Claim 19 (New): A method of manufacturing a semiconductor device according to claim 16, wherein the second insulating layer is a silicon nitride film.

Claim 20 (New): A method of manufacturing a semiconductor device according to claim 16, wherein the conductive film is a doped silicon film.